

JOURNAL OF SOUND AND VIBRATION

EDITOR
P. E. Doak

EDITORIAL BOARD

W. A. Allen
H. O. Berkta
R. E. D. Bishop
B. L. Clarkson
R. Cohen
D. G. Crighton
I. Dyer
C. L. Dym
A. Freedman
G. M. L. Gladwell
M. Heckl
D. J. Johns
A. W. Leissa
D. J. Mead
H. G. Morgan
R. A. Piesse
E. J. Richards
D. W. Robinson
J. D. Robson
A. Tondl
G. B. Warburton

VOLUME 94
May to June 1984



ACADEMIC PRESS

LONDON ORLANDO SAN DIEGO
SAN FRANCISCO NEW YORK TORONTO
MONTREAL SYDNEY TOKYO SÃO PAULO

ISSN 0022-460X

CONTENTS OF VOLUME 94

NUMBER 1, 8 MAY 1984

PEKAU, O. A. and SYAMAL, P. K., Non-linear torsional coupling in symmetric structures	1
WIENS, G. J. and SINHA, S. C., On the application of Liapunov's direct method to discrete dynamic systems with stochastic parameters	19
SALIKUDDIN, M., AHUJA, K. K. and BROWN, W. H., An improved impulse method for studies of acoustic transmission in flow ducts with use of signal synthesis and averaging of acoustic pulses	33
REDDY, J. N. and KUPPUSAMY, T., Natural vibrations of laminated anisotropic plates	63
NAGAYA, K., Free vibration of a solid plate of arbitrary shape lying on an arbitrarily shaped ring support	71
NAESS, A., The effect of the Markov chain condition on the prediction of extreme values	87
NORTON, M. P. and BULL, M. K., Mechanisms of the generation of external acoustic radiation from pipes due to internal flow disturbances	105

Letters to the Editor

SATHYAMOORTHY, M., Comments on "Vibrations of initially imperfect circular plates including the shear and rotatory inertia effects"	147
CELEP, Z., Author's reply	148
SOTIROPOULOS, G. H., Comment on the substructure synthesis methods	150
TREVIÑO, G., The bispectrum for Brownian motion type random processes	154
WAGSTAFF, P. R. and HENRIO, J. C., The measurement of acoustic intensity by selective two microphone techniques with a dual channel analyzer	156

NUMBER 2, 22 MAY 1984

LOTFY, A. A. and LEIPHOLZ, H. H. E., Long-time response of a finite cantilever plate to antisymmetric dynamic surface loading	161
LOTFY, A. A. and LEIPHOLZ, H. H. E., Long-time response of finite cantilever plates to dynamic surface loadings	175
KARADAĞ, V., Finite element dynamic analysis of blade shear center effects on practical bladed discs	183
WESTON, D. E., Turn-around loss for oceanic sound on a bottom slope	199
GAZANHES, C., GARNIER, J. L. and SESSAREGO, J. P., Computer simulation of spatial filtering of modes by vertical array steering and double symmetrical angles of sight in shallow water propagation	205
MONTERO DE ESPINOSA, F. and GALLEGU-JUÁREZ, J. A., On the resonance frequencies of water-loaded circular plates	217
PAPASTAVRIDIS, J. G., The loading-frequency relation of linear conservative systems via a direct energetic (action) method	223

CONTENTS OF VOLUME 94

ZHANG, Z. C. and CLARKSON, B. L., The driving-point impedance of a plate with an attached subsystem	235
CLARKSON, B. L. and RANKY, M. F., On the measurement of the coupling loss factor of structural connections	249
GHOSH, S. K., Large amplitude free vibrations of square plates of variable thickness	263
RIENESTRA, S. W., Acoustic radiation from a semi-infinite annular duct in a uniform subsonic mean flow	267
LIN, W. H. and JENDRZEJCZYK, J. A., Hydroelastic response of a circular tube in eccentric annular flows	289
WATKINSON, P. S. and FAHY, F. J., Characteristics of microphone arrangements for sound intensity measurement	299

Letters to the Editor

LIU, K. C., A general formula for the space correlation function of the multiply scattered field of randomly distributed scatterers of arbitrary shape . . .	307
GANESAN, N. and DHOTARAD, M. S., Non-linear free flexural vibrations of plates by two approaches	311
GANESAN, N. and DHOTARAD, M. S., Hybrid method for analysis of thermally stressed plates	313
ERRATA	317

NUMBER 3, 8 JUNE 1984

WEAVER, R. L., Diffuse waves in finite plates	319
BAXTER, S. M., The first order non-linear sound field of a two-frequency spherical source	337
SAKATA, M., KIMURA, K. and UTSUMI, M., Non-stationary response of non-linear liquid motion in a cylindrical tank subjected to random base excitation	351
RAO, J. S., RAGHAVACHARYULU, E. and KUMAR, N., Mathematical modelling to simulate the transient dynamic longitudinal force in draw bars of a train-consist	365
SALIBA, H. T., Free vibration analysis of rectangular cantilever plates with symmetrically distributed point supports along the edges	381
KELLER, J. J., Non-linear self-excited acoustic oscillations in cavities . . .	397
NILSSON, A. C., A method for the prediction of noise and velocity levels in ship constructions	411
AIDA, T., Dynamic stability of thin walled beams under travelling horizontal follower load systems	431

Letters to the Editor

MEI, C., Comments on "Lagrange-type formulation for finite element analysis of non-linear beam vibrations"	445
PRATHAP, G., VARADAN, T. K. and SARMA, B. S., Authors' reply	448

CONTENTS OF VOLUME 94

JIANG, J. and DONALDSON, B. K., Extended field method numerical results for pulse loaded thin plates	453
MICKENS, R. E., Comments on the method of harmonic balance	456

NUMBER 4, 22 JUNE 1984

DOONG, J.-L. and CHEN, L.-W., Axisymmetric vibration of an initially stressed bimodulus thick circular plate	461
PARNES, R., Response of an oscillator to a ground motion with Coulomb friction slippage	469
WILKINS, P. A. and MARTIN, A. M., Attention demand and recognition in the perception of warning sounds and the effects of wearing hearing protection	483
PETERSSON, B., The prerequisites for measuring mobility with annular transducer accessories	495
VALERGA DE GRECO, B. and LAURA, P. A. A., A note on forced vibrations of a circular plate with thickness varying in a bilinear fashion	525
YAMAKI, N., TANI, J. and YAMAJI, T., Free vibration of a clamped-clamped circular cylindrical shell partially filled with liquid	531
NAYFEH, A. H., On the low-frequency drumming of bowed structures	551
IRIE, T., YAMADA, G. and TANAKA, K., Free vibration of a thin-walled beam-shell of arc cross-section	563
OHTA, M., UCHINO, E. and HATAKEYAMA, K., General state estimation algorithm for quantized noisy systems from a system-theoretical viewpoint, with special reference to room acoustics	573

Letters to the Editor

HARRISON, R. F., A note on the modelling of non-stationary random excitation processes with reference to a recent paper	587
KIMURA, K. and SAKATA, M., Authors' reply	589
FEARN, R. W. and HANSON, D. R., Hearing level measurements of students aged 18-25 years exposed to amplified pop music	591
ANNOUNCEMENTS	597
BOOK REVIEWS	609
HUMAN RESPONSE TO VIBRATION	611
INDEX TO VOLUME 94	615

Copyright © 1984, by Academic Press Inc. (London) Ltd.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain